

CART253 – Creative Computation I – Fall 2021

Pippin Barr

Proposal for Project 02

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// INTRO

For this project, I really want to hone in on my skills and perfect what I have learnt during this semester. When taking this course, I knew game production was not necessarily what I'm passionate about when computing however, I do want to get a good handle on java and creating general simulations. I learnt a lot so far in terms of structure and want to see how far I can go by perfecting what I have already built and managing it all as a larger project. I believe that focusing on the basics and making sure I have a good handle on that will allow me to accomplish something that will benefit me the most in the future.

That said, for this project I want to make a multi-game program that allows a user to have access to multiple forms of entertainment. This will give me the ability to create a program that serves as an archive for this course. It will include all I have learnt, each simulation will be perfected, and new elements will be added that could be useful in future projects. All simulations will have one theme that is *joy* however, they will have their own *vibe* with the use of colours and sound. This joyful theme will include a lot of vibrant colours, fun sounds and a lot of smiley faces. To keep all games cohesive with one another, the same graphics will be used, user and obstacle sizes will remain constant, and there will be 3 levels to each game which increase in difficulty. Areas I want to develop throughout this project is varying screen size compatibility, phone compatibility, managing sound, natural movements, code legibility, and code efficiency.

// THE MENU SCREEN

As for the creative portion of this project, I plan on focusing a lot on making the menu screen to this program the most interesting of it all. What I came up with is a menu screen that holds rotating coins randomly spread out around the page that hold the programs to be played. To play one of the programs, one will have to drag the desired game coin to the slot machine in which the state will then change to said game. In addition to the alternative menu, there will be an animated header with plenty of colour. For this menu screen to set them to the whole situation, the coins will be smileys and the hear will be very colourful.

// Things to tackle in this program:

- 3d rotations
- Text animations if even possible
- Phone compatibility



// THE PROGRAMS

There will be six games/simulations to choose from on the intro screen. Each game/simulation will correspond to a button where the user will have a small preview inside that button of what that game/simulation entails. Small details like elevator music, button hover effects, and a cute in-theme background visual will set the ambiance and hint to the theme. I also would like to dabble around with animation/gifs style programming for the header. I considered making the animation in After Effects and bringing it in but I believe it will be a nice challenge to tackling it through p5 programming.

// GAMES + SIMULATIONS TO BE INCLUDED

Visual Play

Using the notes from the early classes on drawing shapes, this simulation will allow the user to create objects of custom sizes and watch them move around the screen as they change colours. The no background element will allow the frames to show and create lovely and a satisfying visual.

// Things to tackle in this program:

- How to allow the user to create the size of a shape
- Allowing for the interaction of the user and the objects created to have an interesting effect in the movement of the effects and the visuals that movement creates
- Deciding when/how an end state to the visual is introduced and allowing it not to affect the simulation

Sound Play

Using the notes from the most recent classes on sound in p5, this simulation will allow the user to create objects of custom sizes which will be added to a synthesizer element of the program. The size the user creates for the object will set it in a note range and its later movements once released will affect the pitch of said note range. That said, the size of the shape will be linked to notes, and the colour of the shapes will change according to the pitch. The more objects created, the more notes will be added to the synthesizer, and the more interesting the sounds will be.

Things to tackle in this program:

- How to allow the user to create the size of a shape
- How to link the pitch of the object to the shape's colour and movement
- How to allow the user to edit the size of a shape
- Learning about music and what notes and pitches exist and how to use them in code

Dodge Sadness

Using the exercise *Dodge-me* as a foundation for this game, I will bring it up to par with my current skill of programming in regards to code structure, code legibility, smoothness in movement, add sound effects, and tweak a few things so that it is a smooth and reasonable gameplay every time.

Things to tackle in this program:

- Troubleshooting the best course of action for the smoothness of the movements
- Adding levels of difficulty while maintaining a reasonable gameplay the remains smooth and pleasing
- Adding sound effects

Catch Joy

Using the exercise *Age of Aquariums* as a foundation for this game, I will bring it up to par with my current skill of programing in regards to code structure, code legibility, smoothness in movement, add sound effects, and tweak a few things so that it is a smooth and reasonable gameplay every time. This game was never handed in due to my lack of ability and mental strength to make the concept of states work at the given time of the assignment. That said, my first goal is to troubleshoot it and get it working in the first place.

Things to tackle in this program:

- Get program to work
- Creating difficulty levels while maintaining a reasonable gameplay the remains smooth and pleasing
- Where and when to add sound effects

Keep Joy

Using the exercise *Jungle-garden* as a foundation for this game, I will bring it up to par with my current skill of programing in regards to code structure, code legibility, smoothness in movement, add sound effects, and tweak a few things so that it is a smooth and reasonable gameplay every time. There are a few things to fix in this one that will help me with my other programs like making the timer a countdown element, fixing the visual of the object going off screen, removing the cursor, making sure it is phone capable, and make difficulty level states. Overall, the game will remain the same mostly the same as this was a recent exercise with a good foundation.

// Things to tackle in this program:

- Phone compatibility
- Creating difficulty levels while maintaining a reasonable gameplay the remains smooth and pleasing
- Where and when to add sound effects

Juggle Joy

Using the activity *Jungle-garden* as a foundation for this game, I will bring it up to par with my current skill of programing in regards to code structure, code legibility, smoothness in movement, add sound effects, and tweak a few things so that it is a smooth and reasonable gameplay every time. Given that there was not much personalization with this activity, that will be my first and biggest challenge. I will have to customize it to fit the theme of this project while maintaining it's functionality (the issue that occurred with the Age of Aquariums exercise) and will have to add element to it that will make the game play more interesting. This game, balls falling and you have the ability to prevent them from falling, is similar to one I very much enjoyed as a child. Therefore, I would like to replicate that by modifying when the balls fall, how many fall, and the effect of the user element.

// Things to tackle in this program:

- Customizing the activity while maintaining functionality
- Modifying the objects movements and reactivity
- Smooth transitions between levels
- Adding sound effects